

March 2008 Newsletter of the AGU Near-Surface Focus Group

1. Joint Assembly abstract deadline has been extended to 7 March at 0959 UT 2. Student Summer of Applied Geophysical Experience, SAGE 2008 3. Near Surface Seismic Reflection Processing--an AAPG short course in San Antonio, Texas, April 19-20, 2008 4. SAGEEP 2008 meeting registration now open

Recent announcements of interest to the NS community (conferences, academic positions, graduate student opportunities etc.) can be found at the AGU NS-Focus Group Web Page: http://www.agu.org/focus_group/nsg/index.html

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1. Joint Assembly abstract deadline has been extended to 7 March at 0959 UT (because the submission server was out of commission this past weekend).

The deadline for submission of abstracts to the 2008 Joint Assembly in Fort Lauderdale is fast approaching. Near Surface Geophysics (NS) will host seven sessions at the 2008 AGU Joint Assembly in Fort Lauderdale (FL), May 27-30. The abstract submission tool can be accessed at <http://www.agu.org/meetings/ja08/>. Please consider supporting this meeting by submitting an abstract prior to the new March 7 deadline.

NS Sponsored sessions:

NS01 Innovative Near-Surface Geophysical Approaches to the Characterization of Karst Aquifers

A number of surface and subsurface geophysical methods are being used in innovative ways for the field-scale characterization of near-surface karst features. Interesting studies have been conducted at the centimeter to meter scale of karst limestone specimens and boreholes, which include magnetic resonance imaging, computer-aided tomography, and digital optical borehole visualizations. This session will focus on (1) advances in instrumentation and methods and (2) applications to a variety of groundwater investigations. This session will bring together geophysicists, hydrologists, and geologists who are investigating karst carbonate aquifers to determine the geologic features affecting the groundwater flow at the scale of centimeters to kilometers. It is hoped that a broad spectrum of geophysical experts presenting at this session will produce an overview of the state of practice of high resolution surface, borehole, and laboratory geophysical methods and their application to a variety of groundwater investigations.

Conveners: Kevin J. Cunningham, U.S. Geological Survey, 3110 SW 9th Avenue, Fort Lauderdale, FL 33315 USA, email: kcunning@usgs.gov, and Cameron Walker, Walker Marine Geophysical Company, 7061 NE 8th Drive, Boca Raton, FL 33487 USA, email: walkermarine@yahoo.com

NS02 Near Surface Studies of Coastal Processes

Coastal areas serve as sites of dense human settlement as well as recreational areas. Natural and anthropogenic processes can significantly impact coastal systems over short time scales. A part of coastal research is dedicated to understanding this process-response behavior, for example morphological changes due to hurricane impacts, sediment transport, saltwater encroachment, coastal aquifer characterization and submarine groundwater discharge. This session invites contributions from near surface geophysics, aqueous geochemistry and hydrology illustrating applications and limitations of the methods used in addressing issues related to coastal research.

Conveners: Swagata Guha, University of South Florida, 4202 E Fowler Avenue, Department of Geology SCA522, Tampa, FL 33620 USA, email: sguha9@gmail.com, Christopher Smith, Louisiana State University, Department of Oceanography and Coastal Sciences Coastal Ecology Institute 1223 Energy, Coast, and Environment Building, Baton Rouge, FL 70803 USA, email: csmi125@lsu.edu, and Mou Roy, University of Florida, Department of Geological Sciences 241 Williamson Hall P.O. Box 112120, Gainesville, FL 32611 USA, email: moutusi@ufl.edu

NS03 New Geophysical Tools and Software for High-Resolution Field Site Characterization

Rapid progress in geophysical measurement technology related to positioning, wireless communication, fiber-optics, handheld computing and visualization has greatly improved efficiency and precision of field data acquisition. This session will serve as a forum for geophysicists, hydrologists and resource managers to exchange practical experiences and explore ways to advance characterization of field sites for hydrologic, environmental, and engineering applications. The creation of shared instrument- and expertise pools, as done for example by the CUAHSI Hydrologic Measurement Facility for Geophysics, makes these new tools available to the wider community. The case histories in this session will illustrate the possibilities, limitations and learning from applications of new geophysical tools and software.

Conveners: Mark Grasmueck, RSMAS, University of Miami, USA, email: mgrasmueck@rsmas.miami.edu, Sarah Kruse, University of South Florida, USA, email: skruse@cas.usf.edu, and Remke van Dam, Michigan State University, USA, email: rvd@msu.edu

NS04 Rock Physics Relationships for the Near-Surface: From the Laboratory Scale to the Field Scale

One of the main challenges in the use of geophysical methods for studying the near-surface of Earth is relating the measured geophysical properties to the material properties of interest. The relationship between these two types of properties, the rock physics relationship, can be studied at the scale of core samples through the use of laboratory experiments, and theoretical and numerical modeling. In the interpretation of geophysical field data, the key question is how to derive the field-scale relationships. We welcome submissions to this session that contribute to our understanding of rock physics relationships at all scales. This session will include discussions of laboratory and field experiments, and numerical and theoretical modeling.

Conveners: Rosemary Knight, Stanford University, USA, email: rknight@stanford.edu, and Anthony Endres, University of Waterloo, CAN, email: alendres@sciborg.uwaterloo.ca

NS05 Near-Surface Geophysical Methods in Wetland Studies

Wetlands are considered among the most productive ecosystems, often compared to rain forests and coral reefs. Wetlands perform many ecological functions and serve as unique wildlife habitats, natural filters for water purification, surface water reservoirs, and recreational environments. Geophysical exploration of wetlands has expanded in recent years and contributed to improved understanding of wetland processes. Abstracts that focus on laboratory or field-scale studies of, 1) subsurface characterization of natural or contaminated wetland systems, 2) geophysical and/or hydrological properties of wetland sediments, and 3) biogeochemical processes in wetland soils, are solicited here. Studies that focus on the monitoring of wetlands processes are of particular interest.

Conveners: Xavier Comas, Florida Atlantic University, Boca Raton, FL USA, email: xcomas@fau.edu, and James Nolan, Rutgers University, Newark, NJ USA, email: jtnolan@pegasus.rutgers.edu

NS06 Uncertainty in Near Surface Geophysical Data Interpretation: Implications and Developments

The assessment of uncertainty in near surface geophysical data interpretation has critical implications for resource exploration, data acquisition and modeling, and development endeavors. However, risk analysis has been largely under-emphasized in near surface applications.

This session invites papers that highlight the implications of uncertainty in near surface geophysical data interpretations and describe techniques for quantifying and understanding causes of uncertainty. Recent utilization of advanced geostatistical techniques are of particular interest in this session.

Conveners: Yevgeniy A. Kontar, Head, Geophysics Section, Illinois State Geological Survey, 615 East Peabody Drive, Champaign, IL 61820-6964 USA, email: kontar@isgs.uiuc.edu, Abdelmoneam Raef, Geophysics Section, Illinois State Geological Survey, 615 East Peabody Drive, Champaign, IL 61820-6964 USA, email: raef@isgs.uiuc.edu, Susan McGeary, Chair, Department of Geological Sciences, College of Marine and Earth Studies, University of Delaware, Newark, DE 19716 USA, email: smcgeary@udel.edu, and John H. McBride, Chair, Department of Geological Sciences, Brigham Young University, PO Box 24606, Provo, UT 84602 USA, email: mcbseis@gmail.com

NS07 Near Surface Geophysics: General Contributions

This session solicits contributions from a broad range of topics of general interest to the Near Surface Geophysics community. Abstracts focusing on data acquisition, modeling, interpretation and novel case studies are welcome.

Conveners: Lee Slater, Rutgers University-Newark, USA, email:
lslater@andromeda.rutgers.edu

Near Surface Geophysics also presents jointly with the following Special Sessions:

H05 Site Characterization and Hydrologic Modeling
HG05 Advances in Understanding Groundwater Flow in Karst Systems
H16 General Contributions in Hydrogeophysics

2. Student Summer of Applied Geophysical Experience, SAGE 2008: Deadline for application March 31, 2008

The Summer of Applied Geophysical Experience is a unique educational program designed to introduce students in geophysics and related fields to "hands on" geophysical exploration and research. The program emphasizes both teaching of field methods and research related to a variety of basic and applied problems. SAGE teaches modern geophysical exploration techniques: seismic reflection and refraction, gravity and magnetics, electromagnetics (including magnetotellurics), and electrical resistivity. The program is based in New Mexico, USA, it is open to U.S.

and foreign participants and runs June 16 – July 11, 2008. For more information please visit www.sage.lanl.gov

3. Near Surface Seismic Reflection Processing--an AAPG short course in San Antonio, Texas, April 19-20, 2008

Instructor: Roger Young, University of Oklahoma, Norman, OK.

This is an interactive, computer-based course of instruction in the fundamentals of seismic reflection processing with an emphasis on environmental applications. The course is designed to extend the understanding of principles taught by lectures in an introductory college course in seismic exploration; it consists of lectures and a sequence of 12 computer laboratory exercises. For more information please visit <http://www.aapg.org/sanantonio/course05.cfm>.

To help us better anticipate the number of attendees and avoid premature cancellation of short courses, please register well before March 20, 2008. A few student slots at reduced rate are still

available at the time of this announcement. Non-AAPG-conference participants may register for this course for an additional fee of \$30 USD.

4. SAGEEP 2008 meeting registration now open

The 21st Annual Symposium on the Application of Geophysics to Engineering and Environmental Problems will be April 6-10, 2008, in Philadelphia, Pennsylvania. Early registration rates apply until March 14. For more information about the conference, registration, technical program, keynote and luncheon speakers, short courses, special sessions, and hotel reservations please visit <http://www.eegs.org/sageep/index.html>

To contribute material to the NS-letter e-mail to:

George Tsoflias tsoflias@ku.edu

DEADLINE: Material must be received 2 full business days prior to the first of each month. Failure to meet the deadline will likely result in missing the next issue.

GUIDELINES FOR SUBMISSIONS: All members are welcome to submit content of interest to the NS community. Please keep messages brief and provide contact information and (if available) a hyperlink for additional information. AGU requests formatting of e-mail messages to be as simple as possible (no bold characters (use ALL CAPS instead), no color font, or other special formatting of text and paragraphs). Do not submit e-mail attachments for distribution.